

CofC

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.: 7,095,838 B1  
Issue Date: August 22, 2006  
Application No.: 09/674,101  
Applicant(s): Kanerva et al.  
Filed: April 28, 2000  
Title: HANDLING OF FORWARDED CALLS  
Attorney Docket No.: 880A.0002.U1(US)  
Customer No.: 29,683

**Certificate**  
NOV 01 2006  
**of Correction**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attention: Certificate of Correction Branch

Request For Certificate of Correction  
(Office Mistake)  
35 U.S.C. §254 (37 C.F.R. §1.322)

Sir:

This is a request for a Certificate of Correction (MPEP 1480) in regard to the above-identified patent. Attached is a Form PTO-1050. The mistake(s), incurred through the fault of the Patent and Trademark Office, is clearly disclosed by the records of the Office as indicated by the following description:

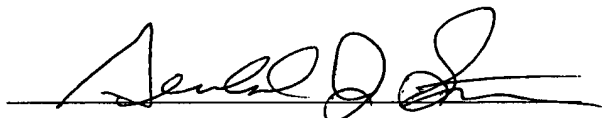
IN THE CLAIMS:

Claim 4, Column 13, line 45 delete "a" and insert --the--. This change appears in the amendment filed on May 23, 2005 filed with the RCE (copy attached). This claim was originally claim number 7 and was not amended after the RCE was filed. Our original request (denied) incorrectly cited Column 13, line 40.

Claim 6, line 12 delete "calls" and insert --call--. According to the notice received concerning the previous request for a certificate of correction, a certificate of correction will be issued with regard to this error.

The Office is requested to issue a Certificate of Correction.

Respectfully submitted,



Gerald J. Stanton (Reg. No. 46,008)

October 25, 2006  
Date

**Customer No.: 29683**  
Harrington & Smith, LLP  
4 Research Drive  
Shelton, CT 06484-6212  
203-925-9400

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail on the date shown below in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Date

Sanj Conway  
Name of Person Making Deposit

# UNITED STATES PATENT AND TRADEMARK OFFICE

## CERTIFICATE OF CORRECTION

PATENT NO. : 7,095,838 B1

Page 1 of 1

APPLICATION NO. : 09/674,101

ISSUE DATE : August 22, 2006

INVENTOR(S) : Kanerva et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

**IN THE CLAIMS:**

Claim 4, Column 13, line 45 delete "a" and insert --the--.

Claim 6, line 12 delete "calls" and insert --call--.

MAILING ADDRESS OF SENDER (Please do not use customer number)

Harrington & Smith, LLP  
4 Research Drive  
Shelton, CT 06484-6212

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*



IN THE U.S. PATENT AND TRADEMARK OFFICE

Appl. No. : 09/674,101  
Applicant : Kanerva et al  
Filed : October 26, 2000  
TC/AU : 2697  
Examiner : Elahee, MD S.

Docket No. : 880.0002.USU  
Customer No. : 29683

COPY

Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDED REQUEST FOR CONTINUING EXAMINATION**

Sir:

In response to the Notice of Non-Compliant Amendment dated May 19, 2005, and in turn to the final Office Action dated January 13<sup>th</sup>, 2005, and to the Advisory Actions dated April 22<sup>nd</sup>, 2005, Applicant submits the following:

**Amendments to the Specification:** None.

**Amendments to the Claims** begin on page 2 of this paper.

**Amendments to the Drawings:** None.

**Remarks/Arguments** begin on page 8 of this paper.

**Appendix:** None.

Applicant believes that the filing of this Amended Request for Continuing Examination (A-RCE) is within two months after the allotted shortened statutory period for reply to the final Office Action. The fee for a one-month extension of time was paid with the RCE filed on May 4, 2005. Applicant petitions for an additional one-month extension of time, for which the balance of the late fee is enclosed. Should the undersigned attorney be mistaken as to time or fee, please consider this a petition for an extension of time that may be required to maintain the pendency of the above-referenced application and/or to advance this RCE, and charge Deposit Account No. 50-1924 for any required fee deficiency.

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1.(Currently Amended)      A method of handling calls in a telecommunication system comprising subscribers and network elements, comprising:
- storing in the system subscriber information including service definitions of a second subscriber;
  - establishing connections to the second subscriber via a network element having access to the subscriber information of the second subscriber;
  - allowing a first subscriber to define in his subscriber information that his incoming calls are to be forwarded to the second subscriber;
  - indicating the forwarding of a call and a caller's identity in a call establishment signaling;
  - allowing the second subscriber to define a set of caller identities in a portion of the subscriber information stored in a service database accessed by a second network element for defining a set of allowed caller identities for incoming forwarded calls from another subscriber, said allowed caller identities being either those included in or excluded from the set,
  - determining in the second network element whether the caller identity of an incoming forwarded call belongs to the allowed identities by comparing the caller identity with said set of caller identities, in response to receiving the call establishment signaling in the first network element and said first network element contacting said second network element,
  - continuing to establish the incoming forwarded call if the caller identity belongs to the allowed identities,
  - rejecting the incoming forwarded call if the caller identity does not belong to the allowed identities.

- 2.(Currently Amended)      A method according to claim 1 in which the second subscriber defines the set of caller identities.

- 3.(Currently Amended)      A method according to claim 1 in a system, using a call forwarding counter in the call establishment signaling, in response to receiving call establishment signaling requesting establishment of a call from a third calling subscriber to a

~~first~~ the second subscriber and determining that the first subscriber has forwarded said first subscriber's calls to ~~a~~ the second subscriber, the call is forwarded to the second subscriber, and the value of the call forwarding counter is incremented,

determining whether the call has been forwarded, the value of the call forwarding counter indicated in the call establishment signaling is compared to a predefined value, and if the value of the call forwarding counter exceeds the predefined value, the call is determined to be a forwarded one.

4.(Previously Amended) A method according to claim 1, wherein callers, whose calls are to be rejected, are defined by the set of caller identities.

5.(Previously Amended) A method according to claim 1, the method further comprising:  
defining the set of caller identities by callers whose calls are to be accepted, and rejecting calls whose caller identity does not belong to said set.

6.(Previously Amended) A method according to claim 1, wherein calls are accepted from an unknown caller number.

~~7.(Currently Amended)~~ A method according to claim 1 in a system further comprising an intelligent network capable of storing subscriber information, the method further comprising:

~~in the first network element, the event of receiving a forwarded incoming call to a~~ the second subscriber having determined said subscriber's forwarded incoming calls to be rejected is defined to be a trigger for sending a query to the intelligent network, and in response to having received the request to establish a call to ~~a~~ the second subscriber and having determined that the call has been forwarded and the subscriber has determined said forwarded incoming calls to be rejected, a query having the calling party's number as a parameter is sent to the intelligent network, and

in the intelligent network, a set of allowed calling numbers for incoming forwarded calls in the subscriber information is stored and in response to having received said query sent by the network element, the set of allowed calling numbers is retrieved from the subscriber information, the calling party number is compared to the set, and the network element is instructed to continue a call establishment procedure if the calling party number

belongs to the set of allowed calling numbers and to reject the incoming call if the calling number does not belong to the set.

8.(Canceled)

9.(Currently Amended) A method according to claim 1, wherein the method is executed in a mobile telecommunication system comprising

a mobile services switching center serving the second subscriber, and a visitor location register connected to the mobile services switching center,

wherein the subscriber information is stored in the visitor location register and the first network element is the mobile services switching center.

10.(Previously Presented) A method according to claim 1, wherein the method is executed in a mobile telecommunication system comprising

a home location register storing the subscriber information of a subscriber, and

a gateway mobile services switching center via which an incoming calls of the subscriber are routed,

wherein the subscriber information is stored in the home location register and the network element is the gateway mobile services switching center.

11.(Previously Presented) A method according to claim 1, wherein to determine whether a call has been forwarded, the presence of a forwarding number indicating the identity of the party having forwarded is studied, and if the forwarding number is present, the call is determined to be forwarded.

12.(Currently Amended) A telecommunication system comprising:

exchanges;

subscribers;

a service control network element;

means for storing subscriber information including information about the service definitions of a second subscriber;

means for establishing calls to the second subscriber via an exchange having access to the subscriber information of the second subscriber;

means for allowing a first subscriber to define in his subscriber information that his incoming calls are to be forwarded to ~~another~~ the second subscriber;

storing means for storing a set of caller identities in the subscriber information of the second subscriber for defining a set of allowed caller identities for incoming forwarded calls from another subscriber, said allowed caller identities being either those included in or excluded from the set, and for providing said allowed caller identities to said service control network element;

means for allowing said second subscriber to define said set of calling entities;

means for indicating in the call establishment signaling the forwarding of a call, and a caller identity;

determining means in said service control network element for determining whether the caller identity of an incoming forwarded call belongs to the allowed identities by comparing the caller identity with said set of caller identities, in response to receiving the call establishment signaling in the ~~network element~~ exchange;

continuing means for continuing establishing the incoming forwarded call if the caller identity belongs to the allowed identities; and

rejecting means for rejecting the incoming forwarded call if the caller identity does not belong to the allowed identities.

13.(Previously Presented) A telecommunication system according to claim 12, wherein the determining means is arranged to verify the forwarding of a call using a call forwarding counter.

14.(Previously Presented) A telecommunication system according to claim 13, the system further comprising configuration means for configuring the subscriber information stored in the storing means.

15.(Currently Amended) A network element for a telecommunication system having:  
exchanges;  
subscribers;  
a service control network element;  
means for storing subscriber information including information about the service definitions of a second subscriber;

means for establishing calls to the second subscriber via an exchange having access to the subscriber information of the second subscriber;

means for allowing a first subscriber to define in his subscriber information that his incoming calls are to be forwarded to the second subscriber;

storing means for storing a set of caller identities in the subscriber information of the second subscriber for defining a set of allowed caller identities for incoming forwarded calls from another subscriber, said allowed caller identities being either those included in or excluded from the set, and for providing said allowed caller identities to said service control network element;

means for allowing the second subscriber to define said set of calling identities;

means for indicating in the call establishment signaling the forwarding of a call, and a caller identity;

determining means in said service control network element for determining whether the caller identity of an incoming forwarded call belongs to the allowed identities by comparing the caller identity with said set of caller identities, in response to receiving the call establishment signaling in the network element exchange;

continuing means for continuing establishing the incoming forwarded call if the caller identity belongs to the allowed identities; and

rejecting means for rejecting the incoming forwarded call if the caller identity does not belong to the allowed identities.

16.(Previously Presented) A network element according to claim 15, wherein a call forwarding counter is used for verifying the forwarding of call.

17.(Currently Amended) A home location register for a mobile telecommunication system comprising:

exchanges;

subscribers;

a service control network element;

means for storing subscriber information including information about the service definitions of a second subscriber;

means for establishing calls to the second subscriber via an exchange having access to the subscriber information of the second subscriber;

means for allowing a first subscriber to define in his subscriber information that his incoming calls are to be forwarded to the second subscriber;

storing means for storing a set of caller identities in the subscriber information of the second subscriber for defining allowed caller identities for incoming forwarded calls from another subscriber, said allowed caller identities being either those included in or excluded from the set, and for providing said allowed caller identities to said service control network element;

means for allowing the second subscriber to define said set of caller identities;

means for indicating in the call establishment signaling the forwarding of a call, and a caller identity;

determining means in said service control network element for determining whether the caller identity of an incoming forwarded call belongs to the allowed identities by comparing the caller identity with said set of caller identities, in response to receiving the call establishment signaling in the ~~network element~~ exchange;

continuing means for continuing establishing the incoming forwarded call if the caller identity belongs to the allowed identities; and

rejecting means for rejecting the incoming forwarded call if the caller identity does not belong to the allowed identities.

**Remarks/Arguments:**

The Applicant submitted on March 4, 2005, a Response to the final Office Action dated January 13, 2005. An Advisory Action dated April 22, 2005 indicated that the March 2005 Response was not entered. The Applicant submitted an RCE on May 4, 2005 that reproduces the claims of that earlier response that was refused entry. A Notice of Non-Compliant Amendment dated May 19, 2005 indicated that the May 4<sup>th</sup> RCE improperly recited "Previously Amended" for some claims. This Amended RCE (A-RCE) re-presents the claims of the May 4<sup>th</sup> RCE, but with claims 4-6, 10-11, 13-14, and 16 annotated as "Previously Presented". This is seen to correct each instance of non-compliance cited by the Notice of Non-Compliant Amendment dated May 19, 2005.

In the final Office Action dated January 13, 2005, the Examiner has rejected claims 2, 8 and 9 under 35 U.S.C. § 112, second paragraph, as lacking antecedent basis for an instance of the term "the subscriber". The Examiner has made final a rejection to claims 1-5 and 7-17 under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,878,338 to Alperovich et al (hereinafter, Alperovich) in view of U.S. Patent No. 5,473,671 to Partridge, III (hereinafter, Partridge), and has further rejected claim 6 as obvious in view of the combination of Partridge, Alperovich, and U.S. Patent No. 6,487,600 to Lynch (hereinafter, Lynch).

Claims 1-7 and 9-17 remain in the application. Claims 2 and 9 are amended herein to overcome the Examiner's rejection as to antecedent basis. The independent claims 1, 12, 15 and 17 have been amended without prejudice. The grounds for the amendments can be found in the disclosure, for example, on page 9, line 34 to page 10, line 16, pertaining to the service database and the service control network entity, and page 8, lines 1 - 13. Claim 8 has been cancelled. Claim 3 is also amended to clearly maintain its distinction over claim 1, in light of the changes made to claim 1.

Applicants respectfully submit that claims 1, 12, 15 and 17 are patentable over Partridge (US 5,473,671) in view of Alperovich (WO 98/05153).

Partridge and Alperovich both fail to disclose the following combination of features  
*"allowing the second subscriber to define a set of calling identities in the part of the subscriber information stored in a service database accessed by a second network*

*element for defining a set of allowed calling identities for incoming forwarded calls from another subscriber, said allowed calling identities being either those included in or excluded from the set".*

Alperovich ('US 5,878,338) discloses a method and equipment, by means of which is possible to selectively bar incoming forwarded calls. In the method a switch registers the forwarding number from the last received call. The subscriber can request the forwarding number from the last received call or call attempt to be recorded on a list of disallowed forwarders. Subsequently, forwarded calls where the forwarding number belongs to the list of disallowed forwarders are rejected. The salient difference between Alperovich and the patent application at hand is that Alperovich relies on the identity of the forwarder, not of the caller. This entails certain problems avoided by the method claimed in the patent application at hand; namely, that the forwarding number may not be carried in all call signaling systems such as analog call signaling system (for instance, pulse signaling). Most simple call signaling systems only carry the dialed number.

Partridge (US 5,473,671) discloses a system for restricting incoming calls in a situation where call forwarding has been defined from an original called subscriber to a mobile subscriber. The original called subscriber and the mobile subscriber are typically the same actual person. A list of allowed caller identities is defined for the original called subscriber. The list is stored in association with subscriber data that is maintained in a subscriber switch or equipment, which receives incoming calls on behalf of the original called subscriber. Whenever there is an incoming call for the original called subscriber, it is checked if the caller identity belongs to the list of allowed caller identities. If the caller identity passes the test, the call is forwarded to the mobile subscriber. Thereupon, the call is routed to a cellular network. In Partridge the incoming calls are not already forwarded as they arrive to the subscriber switch or equipment. Thus, Partridge teaches a check prior to the actual forwarding.

The Examiner admits that Alperovich fails to suggest the feature above in the form previously presented. The applicant submits that Partridge also fails to teach the feature as amended. Partridge fails to suggest that the calling identities are defined

particularly for incoming forwarded calls from another subscriber. Partridge fails to teach the provision for calls that have already been forwarded as they arrive to the entity in charge of restricting incoming calls. The distinction between the screening of a direct incoming call before forwarding and a forwarded incoming call must be made, since these two cases have different requirements, because the original called party is different. The cases have different priorities. For example, a direct incoming call from a customer or a superior may have high priority whereas such a call as forwarded from a colleague has lower priority.

Partridge and Alperovich both fail to disclose the following feature: *"determining in the second network element whether the caller identity of an incoming forwarded call belongs to the allowed identities by comparing the caller identity with said set of caller identities, in response to receiving the call establishment signaling in the first network element and said first network element contacting said second network element"*.

Alperovich is cited by the Examiner on the previously presented version of the feature mentioned above. Alperovich fails to disclose that the second network element determines whether the caller identity of an incoming forwarded call belongs to the allowed identities. Applicant respectfully points out that the Examiner's interpretation of teachings in Alperovich is out of the context. In column 2, lines 39-40, Alperovich does say that *"the correlated directory number from which only forwarded calls are to be blocked is retrieved"*, but this is immediately followed by *"the retrieved directory number is compared against the forwarded-from number contained in the incoming call set-up signal"*. The phrase *"directory number from which a forwarded call is to be blocked"*, in the context of column 2, lines 41 – 43, in fact does not render it clear for an expert in the field that the directory number may be also a calling party number instead of the forwarded-from number. The Alperovich text clearly recites the opposite.

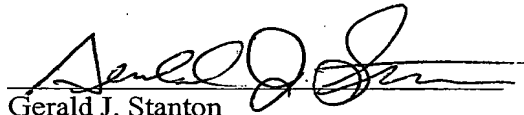
Due to the reasons indicated above, the applicants respectfully submit that also claims 12, 15 and 17 comprising substantially same subject matter detailed above are also patentable over Partridge in view of Alperovich.

Appl. No. 09/674,101  
Amended RCE Dated May 23, 2005  
Reply to Advisory Action dated May 19, 2005 (and OA of 1/13/05 and AA of 4/22/05)

Claims 2-11, 13-14 and 16 depend on claims 1, 12 and 15 respectively, either directly or via intervening claims, and are therefore also patentable over Partridge in view of Alperovich.

For all of the foregoing reasons, it is respectfully submitted that all of the claims present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested.

Respectfully submitted:

  
Gerald J. Stanton

Reg. No.: 46,008

Customer No.: 29683  
HARRINGTON & SMITH, LLP  
4 Research Drive  
Shelton, CT 06484-6212  
Phone: (203) 925-9400  
Facsimile: (203) 944-0245  
Email: gstanton@hspatent.com

May 23, 2005  
Date

#### CERTIFICATE OF MAILING

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May 23, 2005  
Date

  
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